Articulata, Bd. III, Folge 1, September 1987, Würzburg, ISSN 0171-4090

Notes on Eupithecia (Lepidoptera: Geometridae)

by
A. M. **Vojnits**

Abstract

Eupithecia silenicolata zengoeensis **Fazekas,** 1979 = the nominotypical species. *Eupithecia inveterata* nom. nov. for *E. trita* Vojnits, 1977 (secondary homonym, nec *E. trita* **Turati,** 1926). The separation as a subspecies of the Central European populations of *Eupithecia sinuosaria* **Ev.,** an actively spreading species, is unrealistic. The paleozoographic analysis of most *Eupithecia species* rest on insufficient fundations.

1. *Eupithecia silenicolata zengoeensis* **Fazekas,** 1979 syn. nov. Linnaeana Belgica, 11: 406–411, figs. 1–4.

Eupithecia silenicolata silenicolata **Mabille,** 1866 Ann. S. Fr., p. 562.

Subspecific name. The Author named the new taxon after highest point in the Mecsek Mountains, the 682 meters high Mount Zengö, mentioning that this place is the typical location of the subspecies. Following this he stated that the subspecies lives at altitudes between 200–350 m. These areas are entirely different from those of Mount Zengö and its environs. If a taxonomical name is given to a taxon, it should not be misleading under any circumstances.

Diagnosis. Of the nine specimens which served as the basis for the description, one is in more or less good condition, one is slightly and the other seven are heavily worn. Taking this into consideration, it is hard to understand how the Author came to the conclusion, that the colour of the wings are somewhat lighter than that of the nominotypical form. This feature is consideres as the main element in the external morphological description. Such an observation, based on the examination of the available specimens, is insubstantiated. As to the further elements of identification in the wing pattern, it must be concluded that there are no marks of any kind which would justify a differentation between the specimens originating from the Mecsek Mountains and those from numerous other localities in Central Europe (Plate 1, Figs. 1–9).

Genitalia. The points listed as characteristic to the male genitalia: a strongly convex valva dorsalis, a tapering apex – are rather variable: they depend mostly on the amount and degree of pressure. Such obersavtions do not permit contentions on a new subspecies. Furthermore even the author himself stated that these characteristics can only be established through examining „larger series". However, there are only three male specimens known from the above mentioned location. In the structure of the female genitalia the Author failed to find any difference (Plate 2, Figs. 1–7, Plate 3, Figs. 1–5).

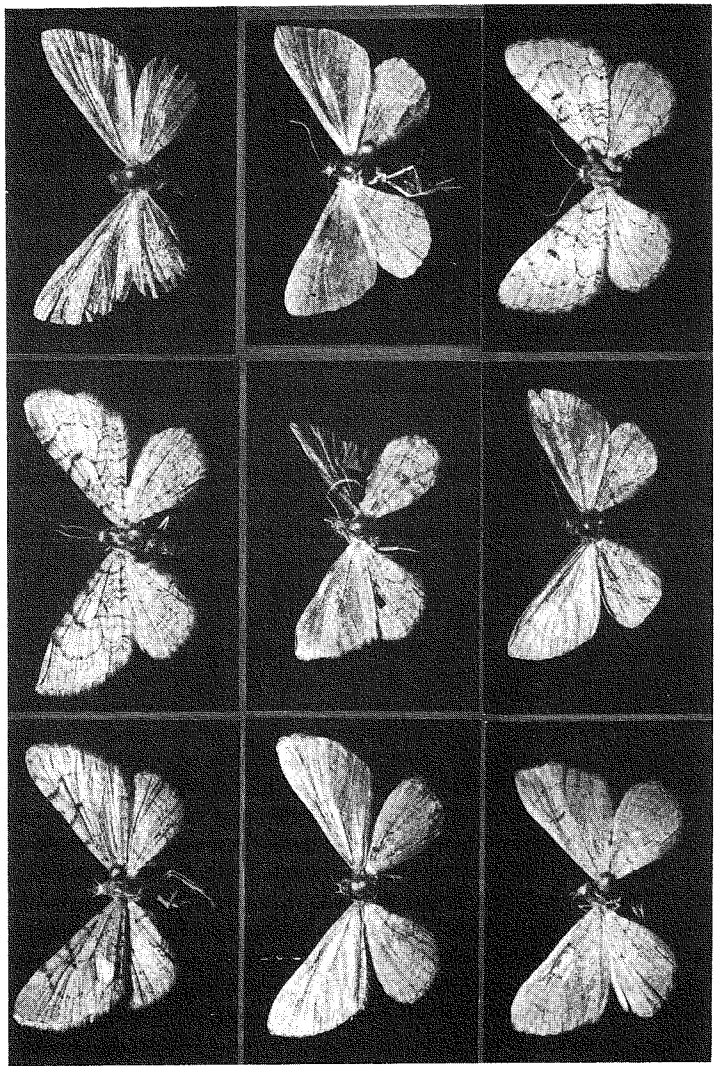


Plate 1, Fig. 1: *Eupithecia silenicolata zengoeensis* **Fazekas,** Holotype; Figs. 2–8: *E. silenicolata zengoeensis* **Fazekas,** Paratypes; Fig. 9: *Eupithecia silenicolata* **Mab.,** ex Kaposvár, Hungary

Biology. The Author's belief in the phenological difference is the main basis for the description. *E. silenicolata zengoeensis* is proffered as a bivoltine population, to the contrary of the nominotypical univoltine one. But the population from the Mecsek Mountains is not the only one of which the imagines fly also in July and August. For instance, I have seen specimens from an Italian locality in the **Pungeler** collection (Berlin). **Pinker** (1968) states that the species occurs in Macedonia in the period between the beginning of June and the middle of August. Still more striking is that **Fazekas** did not mention (although he had evidently examined it) the **Nattán** material from Kaposvár (Janus Pannonius Museum, Pécs) in which there are 64 specimens of *silenicolata.* Of these 14 specimens derive from July and 5 from August. Furthermore, specimens were also collected in the Bükk Mountains (North Hungary) in August. Although the swarmgraph shows a certain bivoltine charcter its meaning is not singular (**Maliczky,** 1969). On the other hand this bivoltin character is not valid at the only locality mantioned by the Author. To be sure, a discussion of the problem from an obviously ecological aspect is commendable – but it is wholly unreasonable, premature and incorrect to describe a subspecies based such incomplete research.

Fazekas gives *Silene viridiflora* as the foodplant. No plant should be named as a foodplant just because it grows profusely at the locality. In general if the larva ist found on the plant than it can be presumed to be the foodplant of the species. A further wrong is the infiltration of false data in literature, and subsequently often passed on from publication to publication.

Distribution. When the Author mentions two other, previously described subspecies, he consistently writes about Asia Minor, though neither Libanon (*Eupithecia silenicolata persistincta* **Wehrli**) nor the Iranian locality of *Eupithecia silenicolata sultanabadi* **Brandt** could be considered as Asia Minor. Thus the zoogeographic conclusions, based on these localities are wrong – furthermore under no circumstances should „modern" zoogeographic termini technici be used when information concerning the species is inadequate. It is possible that *silenicolata* is an atypical polytypic species of expanding destribution, but **Fazekas** finds it peculiar that the population of the Mecsek Mountains lives in a mesophyllous and not a xerothermic environment. **Pinker** (1968), among others, had pointed out that „sie (e.g. *silenicolata)* hat eine Höhenverbreitung bis in die subalpine Zone."

Remarks. **Fazekas** made his notes as well as all the specimens and slides available to me. The revision based on these was also accepted by him. His objectiv and cooperativ attitude is appreciated.

Examined material. **Dietze** collection, Berlin (11 ♂♂, 14 ♀♀: Italy, Austria, Corsica); **Staudinger** collection, Berlin (3 ♂♂, 6 ♀♀: Corsica, Central and South Europe); **Pungeler** collection, Berlin (2 ♂♂, 6 ♀♀: Europe); **Koenig** Museum, Bonn (6 ♂♂, 18 ♀♀: Libanon = *Eupithecia silenicolata persistincta* **Wehrli**); Staatsammlung München (30 ♂♂, 48 ♀♀: Central and South Europe); TTM Budapest (30 ♂♂, 10 ♀♀: Hungary, Central and South Europe); Janus Pannonius Muzeum, Pécs (64 ♂♂: Kaposvár, South-West Hungary).

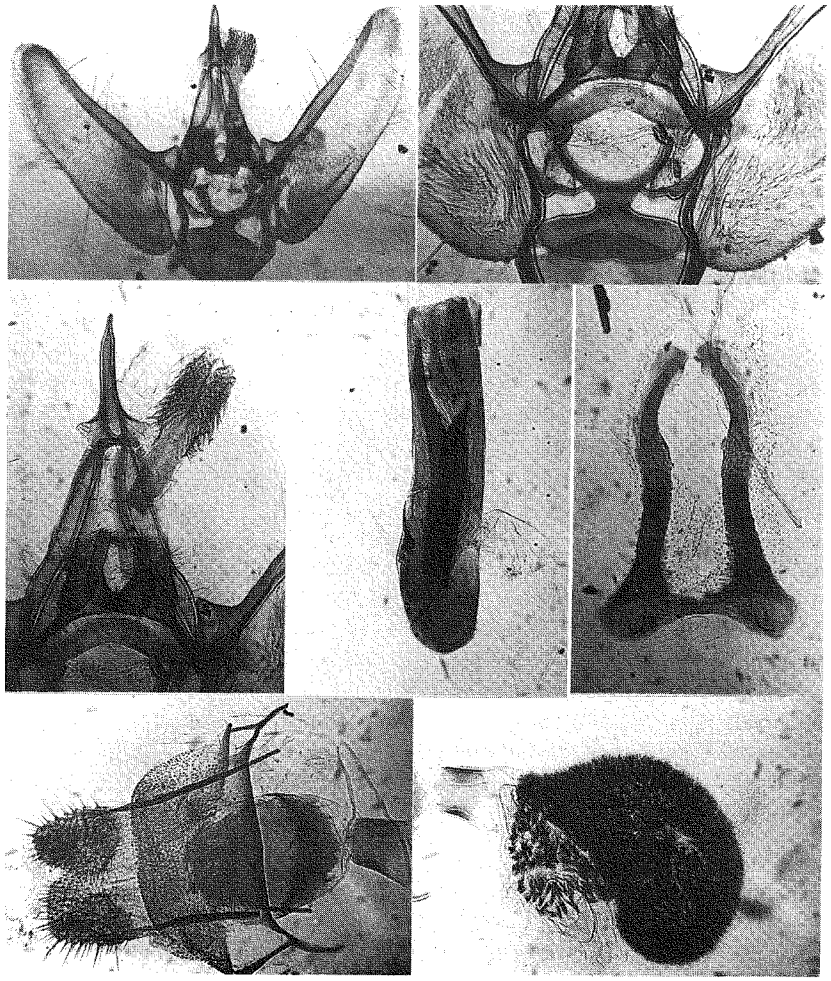


Plate 2, Figs. 1–5: *Eupithecia silenicolata zengoeensis* **Fazekas,** male genitalia; Figs. 6–7: *E. silenicolata* **Fazekas,** female genitalia

Slides Nos. 777 (♂), 14.501–14.542 (♂♂), gen. prep. **A. Vojnits,** 112, 742 (♂♂), 237, 243, 416, 717 (♀♀), gen. prep. **I. Fazekas.**

2. *Eupithecia inveterata* nom. nov. pro *E. trita* **Vojnits,** 1977, nec *Eupithecia trita* **Turati,** 1926.

(Derivation of specific name: inveteratus = old-established.) *Eupithecia trita* **Turati,** 1926 – Atti della Soc. Ital. di Sci. Naturali, 65: 54, fig. 15.

Eupithecia trita **Vojnits,** 1977 – Acta zool. hung., 23: 476–477, fig. 12.

Secondary homonym. The previously unpublished photograph of the new species as well as that of the male genitalia are presented here.

Remarks. **Werner Wolf** (Universität Bayreuth) also pointed out the homonymy. I am thankful for his cooperation.

3. *Eupithecia sinuosaria* **Ev.**

Individual specimens of the species have been collected from various localities of Hungary: one specimen each from Nemesgulács, Kaposvár, Köszeg and the Mts. Velence and two specimens from Tanakajd. The species occurs also in the Eperjes – Tokaj hill complex (Sajószentpéter) and even in the Hungarian Plain (Jászberény).

As **Fazekas** (1980) mentions, following the works of **Kaisila** (1962) and **da Lattin** (1967), this Sibirian species advanced several thousand kilometers towards the West at the end of the last century and recently specimens were found in an increasing number of localities west of the Danube. It is therefore rather incomprehensible that **Fazekas** writes about differences in the genital structure of specimens from the Carpathian Basin and tries to support a theory of subspecific separation based on microsystematic examinations of a „sufficent number of specimens". It were rather surprising if this actively spreading species had separated into subspecies. In addition, it must be noted that the localities in the Carpathian Basin, where the species has ever been collected, are of the greatest diversity: at cool and wet places, and sometimes in definitely xerothermic to submediterranean areas. (The difference in the genital structure – in this instance – would manifest itself in a valva-character variation which is difficult to analyse).

4. About the fundament of certain zoogeographical evaluations.

A typical, classic or – if you like – „old-fahioned" faunistic work contains a list of the names of the animals and their locality. The zoogeographic data attaches to this says neither more nor less than a statement about the collectin site of the species: for example, a species which occurs in Europe was collected in Europe. Such works are useful also today as data-base documents, provided the determinations as well as the localities are correct. The „most modern" zoogeographic works are also based on such accurate data collections.

After the birth of various zoogeographic courses it became a practice to embellish almost all faunistic works with zoogeographic observations. This fact in itself ist

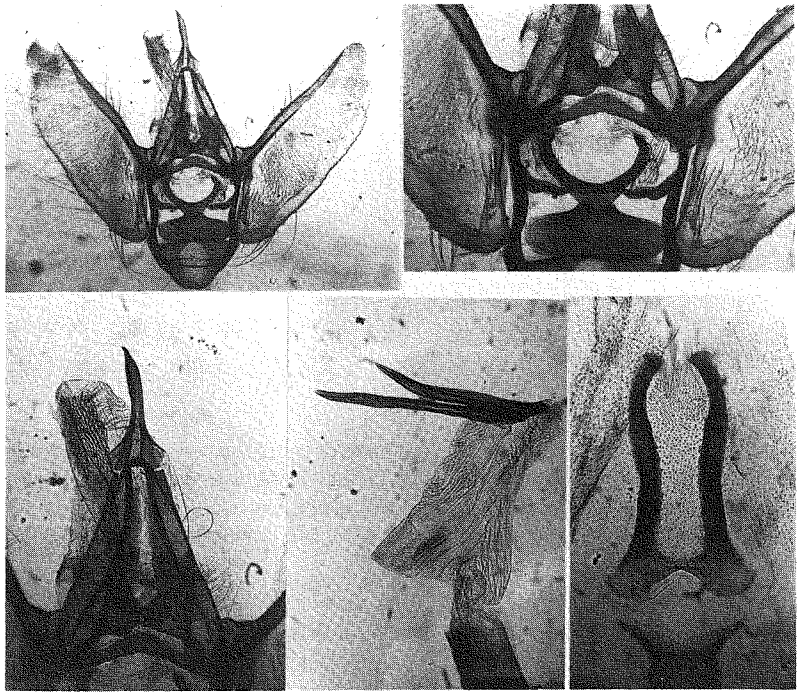


Plate 3, Figs. 1–5: *Eupithecia silenicolata* **Mab.**, male genitalia

harmless – only unnecessary. But it is certainly wrong to arrive conclusions and go into lengthy zoogeographic argumentation without possessing sufficent data. It is difficult to comment on statement such as these: „Since we possess little chronological information concerning *Eupithecia inturbata* **Hbn.**, it is difficult to judge in which secundary Mediterranian refugium, during the climate fluctuations of the Pleistocene, did the species survive and colonise Europe"; „*Eupithecia gueneata* **Mill.** entered the Carpathian Basin from the South-West in the postglacial period. At the line of the Danube a barrier – at present not sufficently known – blockes its way of colonisation." „*Eupithecia intricata* **Zett.** could, on the basis of the available pollenanalytical information, only be a relict of the postglacial preboreal period" (**Fazekas** 1980).

I contend that at the present phase of research it is premature to establish „new" *Eupithecia* origins (especially if this is based only on Central European species). A zoogeographic analysis based on insufficent data is no more than „make-belief" research. It must be emphasised that any statement which can not be properly proved or disproved has litte informativ value and with the exeption of certain hypotese can not be considered as scientific.

References

Fazekas, I., 1979: *Eupithecia silenicolata zengoeensis* ssp. nova, *Lepidoptera: Geometridae*, Linneana Belgica, 7, 11: 406–410.

Fazekas, I., 1980: A Bakony hegység Eupithecini-faunája, I: *Lepidoptera, Geometridae,* Veszprém megyei múzeumok közleményei, 131–139.

Kaisila, J., 1962: Immigration and Expansion der Lepidopteren in Finnland in den Jahren 1869–1960, Acta ent. fenn., 18: 9–452.

Lattin, G. de, 1967: Grundriß der Zoogeographie, Jena.

Malicky, H., 1969: Das Erkennen von Wanderfalter mit der Lichtfallenmethode, Atalanta, 2, 7: 227–233.

Pinker, R., 1968: Die Lepidopterenfauna Mazedoniens III. *Geometridae – Prirodonaucen* Muzej Skopje, 4: 1–72.

Turati, E., 1926: Novitá di Lepidotterologia in Cirenaica, Atti della Soc. Ital. di Sci. Nat., 65: 23–84.

Vojnits, A.M., 1977: *Geometridae Eupithecini* III. *Lepidoptera*, Acta zool. hung., 23: 461–485.

Address of author:

Dr. A. M. **Vojnits**
Department of zoology
Hungarian Natural History Museum
1088 Budapest, Barass-u. 13
Hungary